APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/727,223	11/30/2000	Radia J. Perlman	P4484	3495

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EXAMINER
NGUYEN, ALAN V

ART UNIT	PAPER NUMBER
2662	

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23 and 25-37* is/are rejected.

7)☒ Claim(s) *24* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 November 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
   application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date *4, 5*.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-3, 5-12, 14-23, and 25-37 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Trisno et al (US Publication 2002/0052960) in view of Gai et al (US

6,697,360), hereafter Trisno and Gai, respectively.

Regarding **claims 1, 25, 27, 29, 30, 32, 33, and 36** Trisno discloses a network

region that does automatic assignment of addresses to nodes in the network region.

The nodes are connected to links as shown in figure 1D. Computer software is

inherently used to implement this system of automatic configuration. This corresponds

to the network region of the present application that configures its nodes with network-

layer addresses, which comprises:

In the invention described by the Trisno reference, the step of broadcasting a

unique identifier to each of the other nodes as shown in step 210, figure 2 corresponds

to receiving messages from the specified routers that contains a number selected to be

used as a unique link number.

Trisno discloses the step (230) assigning unique network addresses based on

the unique identifiers received and corresponds to selecting a number to be used as a

region wise unique number for the link in a second field of the addresses of the nodes

on the link, and the number is not associated with another link in the database of the

present application.

Trisno discloses the step (300) of broadcasting the identifier to the other nodes in

the network, and this equates to the step of generating and propagating a message

containing the selected number to other routers in the network.

Trisno, however, fails to expressly disclose the process of assigning addresses

to other nodes outside its region. The examples in the Trisno reference disclose a

plurality of nodes within a single subnetwork, with the steps of configuring the node

addresses within said single network.

Gai discloses a method and apparatus for auto configuring IP devices where the

configuration is done for devices in a plurality subnetworks, as shown in figure 2.

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to modify Trisno's apparatus to auto configure other subnetworks

outside of its own, as taught by Gai. The motivation is a system with expanded and

desirable capabilities that can manage a larger and more populated number of devices

and links. Doing so would allow a larger overall network to be automatically configured.

Regarding **claims 11, 26, 28, 31, 34, 35, and 37** Trisno discloses a network

region that does automatic assignment of addresses to nodes in the network region.

The nodes are connected to links as shown in figure 1D. Computer software is

inherently used to implement this system of automatic configuration. This corresponds

to the network region of the present application that configures its nodes with network-layer addresses, which comprises:

In the invention described by the Trisno reference, the step of broadcasting a unique identifier to identify it's ode address to each of the other nodes as shown in step 210, figure 2 corresponds to generating messages from the specified routers that contains a number selected to be used as a unique link number.

Trisno discloses the step (230) assigning unique network addresses based on the unique identifiers received and corresponds receiving messages from other nodes, assigning unique address numbers for each link, and propagating the link number assignment messages to the routers/nodes.

Trisno discloses the step (300) of broadcasting the identifier to the other nodes in the network, and this equates to the step of receiving the messages and assigning the link number to the second field of the addresses of the nodes of the link.

Trisno, however, fails to expressly disclose the process of assigning addresses to other nodes outside its region. The examples in the Trisno reference disclose a plurality of nodes within a single subnetwork, with the steps of configuring the node addresses within said single network.

Gai discloses a method and apparatus for auto configuring IP devices where the configuration is done for devices in a plurality subnetworks, as shown in figure 2. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Trisno's apparatus to auto configure other subnetworks outside of its own, as taught by Gai. The motivation is a system with expanded and

desirable capabilities that can manage a larger and more populated number of devices and links. Doing so would allow a larger overall network to be automatically configured.

Regarding **claim 2** Trisno discloses the process of periodically broadcasting a unique identifier to the other nodes in the network to update and resolve any errors in node addresses in figure 3 steps 310-360. This equates to the steps in the present application of monitoring the messages from other routers/nodes to update and resolve any issues with addressing.

Regarding **claims 3 and 12** Trisno discloses a third field in the network-layer address that indicates a region number. This is shown as the prefix "127" in column 430 of figure 4A of Trisno.

Regarding **claims 5-8 and 14-17** Trisno discloses using the MAC address of each node as the unique identifier. The MAC address is a globally unique value that only that node has. The last digit of the MAC addresses shown in figure 4A column 420 is the port number of the node.

Regarding **claims 9, 18, and 20** each node in the network shown in figure 1D of Trisno may serve as the specified router since it is a distributed scheme.

Regarding **claims 10, 19, and 21** the process of automatic configuration of node addresses shown by Trisno is a distributed scheme, since it does not utilize a central database/server that stores all addresses. Each node has its own table containing the addresses of surrounding nodes. See step 230 of figure 2.

Regarding **claims 22 and 23** each node in the Trisno reference maintains a table listing the addresses of all surrounding nodes. The table is constantly updates as every node broadcasts its unique identifiers periodically.

3.   Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trisno in view of Gai as applied to claims 1-3, 5-12, 14-23, and 25-37 above, and further in view of Regan et al (US 6,578,086) hereafter Regan.

Regarding **claims 4 and 13** Trisno in view of Gai fail to expressly disclose where the routers/nodes participate in a link -state routing protocol within the network, and where the messages are link-state packets.

Regan discloses a method of dynamically managing the topology of a data network that utilizes a link -state routing protocol and messaging to manage the data network. See col 5 lines 20-39.

It would have been obvious to further modify Trisno's embodiment to adapt a link -state routing protocol to mange the network, as taught by Regan. The motivation is a trend in the art of rapid improvements in data networking and a desire to stay current with the technology. It is well known by a person in the field of technology that the link - state routing protocol greatly improves the manageability and responsiveness of the system.

Allowable Subject Matter

4.   **Claim 24** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Regarding **claim 24** the cited references taken individually or in combination fails to particularly disclose the combination where each request message includes (i) a current link name currently uniquely identifying the associated link in the network region, the current link name including a link-layer address of the current specified router for the associated link, and (ii) a previous link name, if existing, previously uniquely identifying the associated link in the network region, the previous link name including a link-layer address of a previous specified router for the associated link, and wherein the address-assigning node is operative for each received request message to determine whether a link number is already assigned to the link identified by the previous link name, and if so to re-assign the link number to the same link and associate the link number with the current link name.

Conclusion

5.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to show the state of the art with respect to:

US Patent (6,789,104) to Yamaguchi et al

US Patent (5,835,725) to Chiang et al

6.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Nguyen whose telephone number is 571-272-3089. The examiner can normally be reached on 9am-6pm ET, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AVN
September 30, 2004

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